

## Response to comments on Cathedral Park and Fund Lead Project Areas QAPP April 23, 2021

### Willamette River Advocacy Group (WRAG) Comments

Due to the unique nature of this deliverable, and the feedback received, EPA is providing the following General Comments to all reviewing parties:

**EPA General Comment 1: Limited Riverbank Sampling.** Due to funding limitations riverbanks for FL-3, FL-7, FL-9 and FL-10 will not be addressed by this sampling event and will need to be considered in future deliverables.

**EPA General Comment 2: CSM Development.** The conceptual site model for Cathedral Park, FL-3, FL-7, FL-9 and FL-10 will be discussed in further detail in future deliverables.

**EPA General Comment 3: Limited Scope.** EPA is operating on a fixed budget for this effort. EPA is preparing this QAPP as an initial sampling investigation with the expectation that further sampling will be required. EPA has prioritized obtaining field sampling data over completing the standard early deliverables such as a Sufficiency Assessment and a detailed data gaps analysis. Data Gaps will remain after this sampling event and they will need to be addressed in future deliverables.

**EPA General Comment 4: Selection of sample locations.** The areas covered by this QAPP generally have very limited data, and therefore conducting a robust data gaps analysis was not required to target sampling. The sampling locations were identified by looking at existing data in Leapfrog and applying the PDI standards from the RDGC. Data Gaps will remain after this sampling event and they will need to be addressed in future deliverables. Maps showing historic samples have been added to the QAPP.

**EPA General Comment 5: Labs, analytical methods, quantitation and detection limits.** EPA is using its contract Laboratory Program (CLP) and the EPA Region 10 laboratory to analyze the samples. The assignment of the CLP laboratories will not be made until shortly before collection of samples would start and the laboratories MDLs/EDLS will not be provided. However, the high resolution analyses' results will be reported down to estimated detection limits (EDLs) or estimated maximum possible concentrations (EMPCs) as appropriate. The high resolution method for the organochlorine pesticides to meet the low CUL for dieldrin is not planned.

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1.	Consider engaging the community in collaborative sampling and education opportunities.	General	The Cathedral Park Project Area Working Group provides a venue for community members to learn about the sampling work in the CPPA and is also planning to organize a community outreach event(s) centered around the field sampling. We are endeavoring to provide hands on educational opportunities and have already started collaborating with the Working Group to better target the beach incremental sampling effort and think through how to provide photo/video content of the in-water coring efforts.
2.	Consider providing training to interested community members and local businesses to support sampling. As noted in the QAPP, the training required is: 40-hour Hazwoper Annual 8-hour refresher, Annual CPR First Aid Site Supervisor Training, Trained in EPA CERCLA QA and sampling and shipping methods.	General	The sampling at Cathedral Park Project Area is being done under an existing federal government contract which has rigid requirements around who does the work, and bars EPA from influencing who the contractor selects to complete the work. We don't see an opportunity for community members to participate directly in the sampling effort, and therefore providing training isn't EPA's focus for this particular project.
3.	Consider educational opportunities to demonstrate sampling equipment, methods, and contaminated vs uncontaminated samples, etc.	General	Please see response to WRAG Comment 1.
4.	Consider collaboration on pairing community observations with sampling information, such as use, changes in landscape, etc.	General	Community observations have already provided valuable information to EPA for the Cathedral Park Project Area that was incorporated into the draft QAPP. At the March 23, 2021 Cathedral Park Project Area Working Group meeting, community members provided important input about how they and others use the area and this was documented in a map (page 3 of the Cathedral Park Project Area Working Group, High-Level Meeting Summary, Tuesday March 23, 2021: <a href="https://semspub.epa.gov/src/document/10/100312049">https://semspub.epa.gov/src/document/10/100312049</a> ). We took this map and considered the information on area use and modified the sampling decision units in the draft QAPP accordingly. EPA is very open to additional discussions with community members via the Cathedral Park Project Area Working Group and other forums on other collaboration opportunities.

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5.	We recommend the draft QAPP could describe how variability, such as particle size, is assessed, documented, and subsequently addressed in field and laboratory SOPs. Because sediment (and river bank) samples can often be influenced by environmental conditions we recommend notations of river flow/discharge, recent storm events, and other events near the site such as dredging, construction or recent increase in navigation.	WS #11	<p>When processing a sediment sample, the material is logged by a geologist to document color, soil type and cohesion. Then the 1' interval is thoroughly mixed to mitigate variability within the sample.</p> <p>Subsurface sediments are fairly stable over time. Surface sediments are more likely to be influenced by environmental conditions. Those environmental factors will be considered when the new data generated by this initial PDI sampling effort is incorporated into our overall understanding of the nature and extent of contaminants in the project area. EPA can provide additional clarification to community members via the Cathedral Park Project Area Working Group.</p>
6.	Consider keeping a greater number of samples separate (e.g. 5-10 samples) so that a standard deviation and sense of variability can be determined. This is particularly important given this is and could be a site important for visitor use.	WS #11	The primary objective of the Incremental Sampling Methodology (ISM) sample is to understand the long term exposure that beach users may have at Cathedral Park. The appropriate measure of that is the average over a normal use area. Given that the exposure happens over many years, the variability within a decision unit isn't a measurement that would drive decision making and so we believe the current sampling approach is appropriate. EPA welcomes additional questions during the Cathedral Park Project Area Working Group meetings.
7.	<p>Consider providing a rationale for sampling TOC one foot below the riverbed. TOC is often a hotspot where contaminants attach to in rivers. Information in the rationale could include:</p> <ul style="list-style-type: none"> <li>· Historic scour depth in the region sampled</li> <li>· Historic contaminants samples/TOC and depths</li> <li>· Information from other sections of the river</li> </ul>	WS #11	TOC will be collected in all sediment samples. TOC will also be analyzed in the top interval of riverbank samples (0'-1'). TOC results are helpful in understanding the mobility of contaminants, but are not a driver for cleanup decisions. We believe the current approach will provide an understanding of the general TOC levels within the project area that is needed to support future design work. Worksheet #11 has been updated to explain this objective.

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8.	Consider describing the process for selecting an analytical lab and changing if needed once the process has started. The draft QAPP could identify a process to address changes in laboratories, to make sure that any such change is well documented. The process could document the circumstances leading up to the decision and compare the quality of data from the existing and proposed labs. As an example, a consistently biased data set will not affect trend analysis. However, if the bias changes over the course of data collection (such as a change in analytical laboratories or detection limits), the statistical analysis will be compromised. If a laboratory change is expected, old and new procedures (including paired samples) should overlap for several months to assess potential bias.	WS #12	EPA is using our agency Contract Lab Program (CLP) to process the samples collected under this QAPP. At this time, we do not anticipate there will be a lab change mid-sampling effort, as labs sign up for the entirety of the work. If a laboratory change is required, it will be important to ensure that the data is comparable. EPA will make sure to communicate any laboratory changes (again, not anticipated for this work) to the Cathedral Park Project Area Working Group in advance.
9.	The QAPP could provide more information on comparing historic data with new data. This could include information on comparisons of Standard Operating Procedures, lab standards, QA/QC processes and how any differences are addressed.	WS #12	This request goes beyond the scope of this project area QAPP, and into larger site consistency issues. EPA has maintained a high bar for Standard Operating Procedures, lab standards and QA/QC processes throughout the long history of the Portland Harbor Superfund Site. A collection of "EPA Approved" data is posted on the interim data portal ( <a href="http://ph-public-data.com/">http://ph-public-data.com/</a> ), and we trust that data for making site decisions. If requested, we would be happy to provide a briefing on the various review and oversight steps we take to ensure all EPA approved data meets our standards.
10.	Consider describing the approach for addressing laboratory detection requirements that are below the cleanup levels and how the EPA will ensure that cleanup is successful.	WS #15	Please see General Comment #5. This information has been added to Worksheet #15 after consideration of this WRAG comment.

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11.	This section could align to interest from the community in collaborative sampling efforts. For example, photo documentation could support community experiences and continuous documentation by the community. See Appendix A for examples.	WS #17	Please see response to WRAG Comment 1.
12.	For the Cathedral Park Beach Recreational sampling, samples are proposed to go 6 inches deep. Consider providing rationale for the depth selected. As a recreational area, it is reasonable to take deeper samples due to: any recent deposition from storms; potential disturbance from animals or people; and the potential assumptions on the future use of the site.	WS #17	The top 6 inches of soil reflects the recreational user exposure, consistent with the assumptions and characterization in the Remedial Investigation. While it is possible for exposure to occur below the 6-inch depth, the majority of the exposure is expected to occur in the top 6 inches. Because most beach activities are expected to limit exposure to the top 6 inches, incorporating deeper sediment in the sample could mischaracterize the most prevalent and significant exposure. Further, the beach area sediment movement and transport is assumed to be limited; therefore, EPA expects the top 6 inches of the sediment to be generally stable. Per this comment from the WRAG, this information will be incorporated into the QAPP to provide the reader with the rationale for the sample depth.
13.	For the riverbank samples, consider providing rationale for this sampling approach being given a lower priority (e.g. contingent on budget) and for the implications of using a hand auger.	WS #17	Due to the uncertainties involved in environmental sampling, it is prudent to identify where plans may be adjusted when operating on a fixed budget. If it is necessary to change these locations from mechanical borings to manual augers, a subsurface data gap will remain and will need to be considered in the supplemental Preliminary Design Investigation (PDI). We are prioritizing the sediment cores because these are more costly and logistically challenging to collect than riverbank borings. It will be easier to fill a riverbank boring data gap in the future than a sediment data gap. Per this comment from the WRAG, this information has been added to Worksheet 17e.

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14.	Provide a rationale for the use of 150 foot sampling distances and how any hotspots would be addressed if found during sampling and how hotspots would be defined.	WS #17a	The 150 foot sampling distance is a maximum sampling grid established for all initial Portland Harbor remedial design work. SMAs are identified based of exceedances of Remedial Action Levels (RALs) or the presence of Principal Threat Waste (PTW) summarized in Table 21 of the ROD. If RAL or PTW exceedances are identified, subsequent work will involve defining the extent of these elevated concentrations through additional sampling which may be on the 150 foot scale or smaller. Per this comment from the WRAG, this information has been added to worksheet 17b.
15.	Consider describing contingencies in the event field conditions are different than expected and could have an effect on the sample design, such as no samples can be taken on multiple attempts, and how this gap will be filled.	WS #17a	Throughout the field sampling effort, it is possible that some adjustments due to field conditions will occur, or that some samples will not be able to be collected. To the extent possible, field staff in conjunction with EPA will ensure that any adjustments do not negatively impact our project quality objectives. When project objectives cannot be met, it will be identified as a data gap in future remedial design work and communicated to members of the Cathedral Park Project Area Working Group. Per this comment from the WRAG, this statement has been added to Worksheet #11.
F1	In some locations the ISM Decision Unit follows the Mean High Water line and others it does not. How were the outlines developed?	Figure 3	In general, DUs were selected based on patterns of beach use, as informed by community park users. The specific boundaries were drawn to encompass those areas, and also to create geometric shapes that lend themselves to regular sampling intervals.
F2	The dock outline does not seem to line up with imagery. Confirming this is correct? Otherwise wonder if any of the other polygons/items are shifted?	Figure 3	GIS Imagery and structures on the figures are not surveyed and are expected to vary due to the projection of the satellite image. These items are shown to provide generalized locations of the features but will need to be field located.
F3	FL 3 - Most of the core samples seem focused on decreasing the SMA size. Given this area appears to be depositional, a sample in this area just downstream of the SMA would be useful.	Figure 4	If contamination is found in the proposed cores there will need to be additional sampling to chase the contamination further downstream in future sampling events. See General Comment 4.

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F4	FL 3 - No core samples are planned in the downstream end of the SMA. It would be helpful to understand the rationale for not providing additional information on this SMA boundary.	Figure 4	See General Comment 4. Also see Figure 9 Historic Sample Exceedances.
F5	FL 3 - The SMA shifts inland rapidly in front of the Triangle Park outcropping. What is the justification for this? Given this looks to be a depositional area, what is the rationale for not having a sample in this shallow location?	Figure 4	See General Comment 1. A pile field is located off of the Triangle Park outcrop. Subsurface samples in this area may need to be taken from land and are outside of the scope of this sampling event.
F6	FL 7 - The 150 foot grid includes the steep slopes and river bottom. These are significantly different features. How will sampling ensure that the steep slopes are included in the sampling?	Figure 5	5 samples are located throughout the area based on known contamination. These are in areas of varying degree of slope. Data gaps may still exist after this sampling event.
F7	FL 7 - How will the edge of this SMA be delineated and how will the rest of the SMA to the northwest (map left) be determined?	Figure 5	This FL area abuts the RM11E project area, and the SMA is based on modelling with very few actual data points in the area. After conducting this sampling, we will identify any further data gaps. It is possible that this is not going to be an SMA going forward.
F8	FL 7 - This SMA does not have a core. How will the boundary be determined? Recommend a sample in this area and from this point towards the next SMA boundary towards the shore.	Figure 5	The SMA at FL-7 extends upriver due to a modeling artifact that is resulting from a lack of data, no known contamination has been identified there. This sampling event is expected to increase the amount of data in this area in order to remove the artifact. If contamination is found in the upriver portion data gaps will persist and will need to be addressed in future deliverables. See general comment 3.
F9	FL 9 - What is the rationale for not including core samples downstream within the SMA in the top panel?	Figure 6	The SMA extends extensively downstream due to a lack of data rather than the presence of known contamination. If the downstream samples show elevated levels of concentration then there will need to be additional sampling in the downstream area. Historic samples have been added to the figures.

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F10	FL 9 - Seems that these samples make sense. If these samples show contamination, will the SMA boundary be expanded to these locations?	Figure 6	We will take the results of this sampling and spatially analyze them to update our understanding of where SMAs are. Depending on the results of these samples and the results of the downstream samples, it is possible the SMA boundary would be extended.
F11	FL 10 - What are the triangles? They are not in the legend.	Figure 7	These are mapping artifacts due to the modeling program. The additional sampling will help to reduce the anomalies.
F12	FL 10 - Recommend a sample near where these two SMAs nearly meet.	Figure 7	Noted. See General Comment 4. Future step outs will be determined after the results of the initial PDI samples are received.